those in control group ($P<0.05$). The mean plasma level of sVEGFR2 in both hypertensive diabetic group and hypertensive group was significantly decreased compared to that in the normal group ($P<0.05$). While the mean plasma level of sVEGFR2 in hypertensive diabetic group were significantly decreased compared to the hypertensive group ($P<0.05$). And the mean plasma level of visfatin in both hypertensive diabetic group and only hypertensive group was significantly increased compared to that in the normal group ($P<0.05$), and more increased in hypertensive diabetic patients. ($P<0.05$). Moreover, there was a significantly negative correlation between sVEGFR2 and visfatin in the whole study population ($r= -0.497$, $P<0.01$).

CONCLUSIONS Soluble VEGFR2 expression is decreased in both hypertensive and hypertensive diabetic patients, and more decreased in hypertensive diabetic patients. This study indicates that decreased sVEGFR2 level may be associated with to the increase of visfatin.

GW26-e1329

The prevalence and risk factors of postprandial hypotension in patients with coronary heart disease

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OBJECTIVES The main feature of postprandial hypotension(PPH) is the blood pressure being lower compared with that before a meal, and it may lead to syncope, fall, dizziness, nausea, visual disturbance, cardiovascular events, brain stroke and even death when it has a sharply fall. This study focuses on patients with coronary heart disease to explore the prevalence of PPH among patients with coronary heart disease and relevant risk factors.

METHODS Choose 289 patients with coronary heart disease, age range: 24-90, average age: 62.00±12.22 years old. All patients are divided into different groups on the basis of age and different groups by basic systolic blood pressure level. The blood pressure of patients need to be measured before breakfast, lunch and dinner as well as 30, 60, 90 and 120min after meals.

RESULTS The systolic blood pressure of a total of 50 cases of 289 patients drops ≥20mmHg, and the prevalence of PPH is 17.30%. There are 28 males (9.69%) and 22 females (7.61%) and the prevalence difference of PPH has no statistical significance (P>0.05). The difference of PPH among patients with diabetes, cerebrovascular disease, hypertension, hyperlipemia has no statistical significance (P>0.05). Among patients with taking medications which affect the blood pressure the prevalence is 15.57%; and the patients without taking medications which affect the blood pressure have PPH along with incidence is 1.73%; the difference of PPH has statistical significance (P<0.05). The prevalence of PPH for different age groups has no statistical significance (P>0.05). The prevalence of PPH of breakfast, lunch and dinner is 8.10%, 5.19% and 9.00%, the prevalence of different mealtime has no statistical significance (P>0.05). Taking medications which affect the blood pressure and basic blood pressure level are risk factors for PPH and corresponding OR is 4.05(95%CI 1.52-10.79) and 1.84 (95%CI 1.37-2.49). But in the hospital, there is no statistical difference in the adverse cardiovascular events between the patients with PPH and other patients.

CONCLUSIONS The prevalence of PPH for patients with coronary heart disease is 17.30%. There is no oblivious relevance between PPH and gender, age, body position during meal and whether patients have high blood pressure, hyperlipidemia, diabetes and cerebral vascular disease. Taking medications which affect the blood pressure and basic blood pressure level are risk factors for PPH.

GW26-e3511

Renal sympathetic denervation for refractory hypertension after renal artery stent placement

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OBJECTIVES Since renal sympathetic denervation (RDN) has been recently shown to be an attractive new method in treating the patient with resistant hypertension, we decided to proceed with RDN after discussion with the patient.

METHODS The dosage of Iohexol contrast was 75 ml. The duration of procedure was 55 minutes. The number of ablation point was 6 on both sides. The left renal artery underwent ablation using routine method.The duration of procedure was 55 minutes. The number of ablation point was 6 on both sides. The left renal artery underwent ablation using routine method.

RESULTS In this case report, we have successfully treated a patient with resistant hypertension, who underwent renal artery stent implantation.

CONCLUSIONS This is in accordance with previous reports that RDN is well tolerated and a safe procedure. To best of our knowledge, there are very few studies that RDN procedure was conducted in patient who underwent renal artery stent implantation. Out finding suggest that continued research into the RDN for the treatment of resistant hypertension in selected patients is of interest.

GW26-e3816

Effect of Irbesartan Combined with Diltiazem on Endothelium Dependent Vasodilatation in Chinese Essential Hypertensives

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OBJECTIVES To investigate the effects of irbesartan combined with diltiazem on the endothelium-dependent vasodilatation and cardiovascular protection in Chinese essential hypertensives.

METHODS 142Chinese hypertensives were enrolled in this study. Hypertensive patients were divided into 3 groups: Irbesartan treated (150 mg/day, n=42), diltiazem treated (90 mg/day, n=50), and combined therapy (Irbesartan 150 mg/day+ diltiazem 90 mg/day, n=50). 26 normotensives without cardiovascular risks served as control group. Flow-mediated dilatation (FMD) induced by reactive hyperemia was used to determine endothelium-dependent dilatation (EDD) and nitroglycerin-mediated dilatation (NMD) induced by nitroglycerin was used to determine endothelium-independent dilatation (EID) respectively in brachial arteries using high-resolution vascular ultrasound. Left ventricular mass index (LVMI) was evaluated by echocardiography, Blood pressure (BP) and fibrinogen (Fg) was monitored at baseline and after treatment. All subjects were followed up for 1 year.

RESULTS BP, LVMI, Fg were higher and FMD and NMD were lower in hypertensive patients than those in normotensive controls at baseline. After 1- year treatment, there was a significant increase of FMD in combined therapy group compared with irbesartan treated group and diltiazem treated group [(8.31±3.09)% vs (10.68±3.51)%, $P<0.05$], after stratification of age, while there was no significant difference in NMD after therapy among three groups ($P>0.05$). FMD decreased obviously with the increase of age, which turned out to be not so obviously after irbesartan combined with diltiazem treatment compared with normotensive controls. In addition, Fg decreased significantly after treatment in combined therapy group [(3.57±0.78) g/L vs (3.09±0.83) g/L, $P<0.05$]. LVMI also reduced obviously after irbesartan alone and combined therapy treatment and the reduction of LVMI was much more remarkable in combined therapy group than in irbesartan group [irbesartan group: (98.93±18.23) g/m^2 vs (92.82±14.48) g/m^2, $P<0.05$; combined therapy group: (97.32±16.93) g/m^2 vs (88.70±16.21) g/m^2, $P<0.01$].

CONCLUSIONS Irbesartan combined with diltiazem therapy could improve the endothelium dependent vasodilatation in essential hypertensives significantly, regardless of age, further reduced LVMI and Fg more obviously compared with monotherapy. Therefore, irbesartan combined with diltiazem might be more beneficial for reducing the cardiovascular complications in hypertensives and presented superior cardiovascular protection than monotherapy.

GW26-e4713

Factors associated with morning blood pressure surge in young and middle-aged essential hypertensive patients

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OBJECTIVES The study aimed to explore possible factors associated with morning blood pressure surge, underlying pathophysiological mechanisms and the target of drug therapy in young and middle-aged essential hypertensive patients.

METHODS The objects included in this study were 160 young and middle-aged (younger than 60 years) essential hypertensive patients who were in the ward of hypertension in Peking University People's Hospital from November 1,2011 to January 31,2015. All the objects

were never treated in the past or didn't receive medical treatments in recently four weeks. All the patients provided detailed information of history of illness, received carefully physical and laboratory examinations and were performed ambulatory blood pressure monitoring (ABPM) and ambulatory electrocardiogram (ECG) recording meanwhile. We collected carotid ultrasonography, brachial-to-ankle pulse wave velocity (ba-PWV) and ankle brachial index (ABI) from most of these patients. All patients were divided into the MBPS group, which was defined as having the highest quartile of morning BP increase from sleep (≥28.67mmHg; n = 44) and the non-MBPS group(<28.67mmHg; n = 116). And then we compared all indexes between these two groups.

RESULTS MBPS was correlated positively with day-night systolic blood pressure (SBP) dipping (r = 0.5, p<0.001).And the circadian blood pressure pattern was mostly dipper in MBPS group, while non-dipper in non-MBPS group. Compared with patients in non-MBPS group, those in MBPS group had higher 24 hours systolic blood pressure variability (24h-SBP-BPV), 24 hours diastolic blood pressure variability (24h-DBP-BPV), nighttime systolic blood pressure variability (N-SBP-BPV) and nighttime diastolic variability (N-DBP-BPV). And their correlation coefficients with MBPS were 0.325,0.315,0.316 and 0.286 respectively (p <0.001). After adjustments for factors associated with MBPS these correlations still existed significantly, except for N-DBP-BPV. The morning heart rate surge (MHRS), the 24 hours mean systolic blood pressure (24 h-SBP) profile and daytime mean diastolic blood pressure (D-SBP) profile were higher in the MBPS group than in the non-MBPS group (MHRS: 15.81 ± 6.86 bpm versus 13.22 ± 7.11 bpm, p<0.05; 24h-SBP: 136.41 ± 16.32 mmHg versus 130.41 ± 15.93 mmHg, p<0.05; D-SBP:140.52 ± 16.44 mmHg versus 131.76 ± 17.34 mmHg, p <0.05) and they all had no linear correlations with MBPS.

CONCLUSIONS In young and middle-aged essential hypertensive patients, the day-night SBP dipping, 24h-BPV and N-BPV may be important factors associated with MBPS. Compared with DBP-BPV, SBP-BPV has greater influence on MBPS. 24h-BPV also has more influence on MBPS than N-BPV. Meanwhile, we also find that MHRS is related to MBPS. Therefore, we speculate that in these young and middle-aged essential hypertensive patients, sympathetic nervous system activation may be the main mechanism underlying MBPS. Moreover, 24h-SBP and D-SBP also have an effect on MBPS to some extent.

GW26-e2487

Clinical Analysis of Primary Aldosteronism with Hypertension

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OBJECTIVES To evaluate the clinical characteristics of primary aldosteronism (PA) with hypertension.

METHODS From 2002 to 2015, 56 patients with PA were diagnosed according 2008 American endocrine society clinical practice guideline about PA. Clinical profiles and fasting serum sodium, potassium, aldosterone level, plasma rennin activity, angiotensin level, aldosterone-to-rennin activity ratio(ARR), cystatin C(CysC) and β2-microglobulin (β2-M) were recorded and analyzed.

RESULTS Of these patients, age of diagnosis was (48.9±12.4) years, 62.5% were male, 69.6% were aldosteronoma, 30.4% were idiopathic aldosteronism. Course of hypertension was (5.36±5.24) years, in which 27.8% were less than 1 year, 33.3% were 1-5 years, 29.6% were 5-10 years, 9.3% were over 10 years. The prevalence of 1, 2, and 3 stage hypertension in these patients was 61.1%, 29.6%, and 9.3%, respectively. It was found that systolic blood pressure (166.5±20.4) mmHg, diastolic blood pressure (94.3±16.7) mmHg, PRA(0.30±0.29) ng/ml/h, aldosterone level(26.1±17.3) ng/dl, angiotensin II level (115.5±103.9) pg/ml, ARR (107.17(45.28, 560.17)). The incidence of hypokalemia, hypernatremia and arteriosclerosis was 64.8%, 20.4%, 39.3%, respectively. Correlation analysis showed that the course of PA was positively correlated with CysC, β2-M, serum sodium (r=0.348, r=0.453, r=0.401, P<0.05), negatively correlated with serum potassium (r= - 0.277, P<0.05). It was also shown that diastolic blood pressure was positively correlated with aldosterone level (r= 0.282, P<0.05).

CONCLUSIONS Primary aldosteronism with hypertension was more likely to happen in middle-aged men due to aldosteronoma, manifested as mild to moderate hypertension, with relatively long course before diagnosis which may affect several related factors.

GW26-e1004

A study of relation between plasmic Brain Natriuretic Peptide and Essential Hypertension (EH) Target-organ Damage

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OBJECTIVES To investigate the association between plasmic Brain Natriuretic Peptide (BNP) and essential hypertension (EH) Target-organ Damage (TOD).

METHODS We studied 83 never-treated patients with essential hypertension and 20 normal subjects. Hypertensive patients were divided into two groups. one group was 68 patients with target-organ damage and the other was 15 patients without target-organ damage(pure hypertensive patients). Then 68 patients with TOD were subdivide into subgroups: with 30 left ventricular hypertrophy(LVH), 10 carotid artery wall thickening, 10 renal damage and 18 stroke. All subjects received general situation, blood pressure, fasting plasma glucose and blood lipid levels, liver function, renal function, urinary albumin, a standard 12-lead ECG, 24-hour blood pressure, echocardiography, carotid ultrasonography and cerebral CT or MRI so on. The plasmic BNP quantity were measured by Enzyme-linked immunosorbent assay(ELISA).

RESULTS 1.The plasma level of BNP was elevated in the essential hypertension(EH) group than normal subjects(P<0.05). 2.essential hypertension with target organ damage in each subgroup of plasma BNP levels were higher than in pure essential hypertension group and normal control group, the differences were statistically significant (P<0.05). And the plasma BNP level comparison among various subgroups of essential hypertension with target organ damage, there were no statistically significant difference (P>0.05). 3.In patients with LVH correlation analysis showed that: The plasma level of BNP took positive correlation with left ventricular mass index(LVMI) (r=0.693, P<0.01), took inverse correlation with LVEF(r=-0.768, P<0.01).

CONCLUSIONS These results indicate that BNP is related to the occurrences and developments of essential hypertension and target-organ damage, may become a no-traumatic laboratory indicator in the process of essential hypertension diagnosis and treatment. It has a positive meaning in the disease of changes and prognosis assessment to guide clinical treatment through measuring BNP levels in patients with hypertension and target-organ damage.

GW26-e4665

Efficacy of different doses atorvastatin on the blood pressure: a Meta-analysis

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OBJECTIVES Although the effects of statins on blood pressure has been confirmed, the efficacy of different dose atorvastatin on blood pressure remains controversial. Our meta-analysis was performed of different dose atorvastatin on blood pressure in humans including the randomized, controlled trials of atorvastatin therapy.

METHODS We collected data from twenty-seven randomized control trials of atorvastatin that had the blood pressure reported as one of the endpoints. Weighted Mean Difference(WMD) was used as a measure of the effect of atorvastatin on blood pressure.The analysis was further stratified by factors that could affect the treatment effect.

RESULTS We found that systolic blood pressure (SBP) in the atorvastatin group decreased by 3.14 mmHg (95% confidence interval [CI]:2.13 to 4.15 mmHg) and diastolic blood pressure (DBP) by 1.35 mmHg (95% CI: 0.78 to 1.92 mmHg). In 10mg atorvastatin groups, SBP decreased by 1.17 mmHg (95% CI: 0.22 to 2.13 mmHg), but DBP had no change (DBP: 0.17 mmHg; 95% CI:-0.64 to 0.98 mmHg). In 20mg atorvastatin groups, SBP decreased by 5.82 mmHg (95% CI: 2.32 to 9.32 mmHg) and DBP by 2.93 mmHg (95% CI: 1.11 to 4.75 mmHg). In 40mg atorvastatin groups, SBP decreased by 3.58 mmHg (95% CI: 0.10 to 7.06 mmHg) and DBP by 2.76 mmHg (95% CI: 0.38 to 5.14 mmHg). In 80mg atorvastatin groups, SBP decreased by 2.98 mmHg (95% CI: 2.12 to 3.84 mmHg), but DBP had no changes (DBP: 0.24 mmHg, 95% CI: -2.72 to 3.20 mmHg).

CONCLUSIONS Our findings indicated that different dose atorvastatin therapy has a relatively small but statistically significant and clinically meaningful effect on blood pressure.